

8. (Amended) The nonaqueous electrolyte secondary battery of Claim 7, wherein the fluorine polymer comprises at least one material selected from the group consisting of [polyvinylidene] polyvinylidene fluoride, polytetrafluoroethylene and fluorine rubber.

16. (Twice Amended) A nonaqueous electrolyte secondary battery according to Claim 7, wherein $\text{Li}_x\text{M}[\text{O}]\text{O}_2$ is contained as an active material for said positive electrode where M is one or more types of transition metals and $0.05 \leq x \leq 1.10$.

REMARKS

This Amendment is submitted in response to the Office Action mailed on March 6, 2001. In the Office Action, Claims 8 and 16 are rejected under 35 U.S.C. § 112, second paragraph; Claims 7-9 and 16 are rejected under 35 U.S.C. § 102(a); and Claims 10-15 are rejected under 35 U.S.C. § 103(a). Claims 7, 8 and 16 have been amended. A clean copy of amended Claims 7, 8 and 16 without bracketing indicating deleted text and underlining indicating added text is attached hereto in the Appendix. Applicants respectfully submit that the rejections of the pending claims have been overcome or are improper in view of the amendments and for the reasons set forth below.

In the Office Action, Claims 8 and 16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, Claims 8 and 16 have been newly amended. Applicants note for the record that the amendments to Claims 8 and 16 were made for clarification purposes and therefore have no narrowing effect upon the claimed subject matter as required by Claims 8 and 16.

Accordingly, Applicants respectfully request that this rejection be withdrawn.

In the Office Action, Claims 7-9 and 16 are rejected under 35 U.S.C. § 102(a) as being anticipated by *Koichiro*. The Patent Office essentially asserts that *Koichiro* teaches each and every feature of the claimed invention as required by these claims.

Applicants submit that Claim 7 has been newly amended to include the additional features of Claims 10 and 11. Therefore, Applicants respectfully submit that *Koichiro* fails to anticipate newly amended independent Claim 7.

Accordingly, Applicants respectfully request that this rejection be withdrawn.

In the Office Action, Claims 10-15 are rejected under 35 U.S.C. § 103(a). More specifically, Claims 10-11 are rejected as being obvious in view of *Koichiro*; and Claims 12-15 are rejected as being obvious over *Koichiro* in view of *Abe et al.*

With respect to the rejection of Claims 10-11, the Patent Office maintains this rejection yet it admits that *Koichiro* does not teach the binder weight mixture ratio and binder weight percentage features of Claims 10 and 11.

At the outset, Applicants submit that Claims 10 and 11 have been canceled thus rendering moot this rejection with respect to these claims. As previously discussed, independent Claim 7 has been newly amended to include the features of Claims 10 and 11. Therefore, Applicants respectfully submit that this rejection is improper as applied to newly amended independent Claim 7 set forth in detail below.

Newly amended independent Claim 7 recites a nonaqueous electrolyte secondary battery that includes, in part, a negative electrode comprising a binder and an active material. Independent Claim 7 further recites that the binder includes a mixture of a fluorine polymer and an aromatic vinyl-conjugate diene polymer wherein the binder comprises a weight mixture ratio of the fluorine polymer to the aromatic vinyl-conjugate diene polymer that ranges from about 1 to about 99 and wherein the binder comprises from about 2 weight percent to about 15 weight percent of a total weight of the negative electrode.

In contrast, Applicants respectfully submit that the *Koichiro* abstract fails to teach or suggest each and every feature of independent Claim 7. As even admitted by the Patent Office, *Koichiro* fails to teach the binder weight mixture ratio and binder weight percentage features as now required by newly amended independent Claim 7. Moreover, Applicants respectfully submit that nowhere does the *Koichiro* abstract suggest such features. Indeed, the *Koichiro* abstract is completely silent with respect to such features.

Further, Applicants have demonstrated that the preferable weight mixture ratio of the fluorine polymer and the aromatic vinyl-conjugate diene polymer ranges from about 1 to about 99 and have further demonstrated that the preferable binder weight percent ranges from about 2 weight percent to about 15 weight percent of the total weight of the negative electrode. Applicants have conducted a series of tests to demonstrate the desirable effects of such features on the initial capacity and short circuit temperature. See, Specification, pages 18-21.

Applicants submit that this clearly contradicts the Patent Office's assertion that these features are optimum or workable ranges involving only routine skill in the art. Again, the *Koichiro* abstract is clearly silent with respect to these features, let alone the beneficial effects thereof.

Based on the fact that *Koichiro* fails to teach or suggest each and every feature of the claimed invention, Applicants submit that *Koichiro* fails to render obvious newly amended independent Claim 7. Accordingly, Applicants respectfully request that this rejection be withdrawn.

With respect to the rejection of Claims 12-15 in view of *Koichiro* and *Abe et al.*, the Patent Office admits that *Koichiro* fails to teach the cellulose derivative and graphite features as required by these claims. It therefore relies on *Abe et al.* to allegedly remedy these deficiencies with respect to *Koichiro*.

Applicants submit that this rejection is improper. Claims 12-15 depend from newly amended independent Claim 7 and therefore as a matter of law require each and every feature of newly amended independent Claim 7.

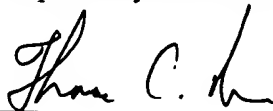
In contrast, Applicants respectfully submit that *Koichiro* fails to teach or suggest each and every feature of newly amended independent Claim 7 as previously discussed. Further, the *Koichiro* abstract fails to teach the cellulose derivative and graphite features of Claims 12-15 as even admitted by the Patent Office.

Even if combinable, Applicants further submit that *Abe et al.* fails to remedy the deficiencies of *Koichiro*. The Patent Office merely relied on *Abe et al.* for its alleged teachings with respect to the cellulose derivative and graphite features of Claims 12-15. Moreover, nowhere does *Abe et al.* teach or suggest the binder weight mixture ratio and binder weight percent features of newly amended independent Claim 7.

Based on the fact that *Koichiro* and *Abe et al.* fail to teach or suggest each and every feature of Claims 12-15, Applicants submit that these references, alone or in combination, fail to render obvious Claims 12-15. Accordingly, Applicants respectfully request that this rejection be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the above-identified patent application is now in a condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,



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APPENDIX



01 7. (Twice Amended) A nonaqueous electrolyte secondary battery comprising:
a positive electrode; and
a negative electrode comprising a binder and an active material, the binder comprising a mixture of a fluorine polymer and an aromatic vinyl-conjugate diene polymer, the active material comprising a carbonaceous material wherein the binder comprises a weight mixture ratio of the fluorine polymer to the aromatic vinyl-conjugate diene polymer that ranges from about 1 to about 99 and wherein the binder comprises from about 2 weight percent to about 15 weight percent of a total weight of the negative electrode.

8. (Amended) The nonaqueous electrolyte secondary battery of Claim 7, wherein the fluorine polymer comprises at least one material selected from the group consisting of polyvinylidene fluoride, polytetrafluoroethylene and fluorine rubber.

12 16. (Twice Amended) A nonaqueous electrolyte secondary battery according to Claim 7, wherein Li_xMO_2 is contained as an active material for said positive electrode where M is one or more types of transition metals and $0.05 \leq x \leq 1.10$.

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